

Application Serial No: 10/518,136
Responsive to the Office Action mailed on: October 10, 2007

IN THE CLAIMS

Amendments To The Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-2. (Cancelled)

3. (Original) A fluorometer for detecting intensity of fluorescence generated from a substance that is excited by light emitted from a light source, comprising:

n (n is an integer of not less than 2) narrow-band-pass filters for transmitting light in different limited wavelength regions of the fluorescence, and

n light-receiving portions having one-to-one correspondence with the n narrow-band-pass filters,

wherein an intensity P1 of fluorescence transmitted through a first narrow-band-pass filter is detected by a first light-receiving portion, and

wherein fluorescence reflected from an (n-1)-th narrow-band-pass filter is allowed to enter an n-th narrow-band-pass filter, and an intensity Pn of fluorescence transmitted through the n-th narrow-band-pass filter is detected by an n-th light-receiving portion,

and

wherein a relative ratio or a difference between the intensities P1, P2,...,Pn of the fluorescence detected respectively by the n light-receiving portions is determined to detect a wavelength width of a spectrum of the fluorescence.

4. (Cancelled)

5. (Withdrawn) A fluorometer for detecting intensity of fluorescence generated from a substance that is excited by light emitted from a light source, comprising:

n (n is an integer of not less than 2) narrow-band reflection-type notch filters for reflecting light in different limited wavelength regions of the fluorescence, and

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n light-receiving portions having one-to-one correspondence with the n narrow-band reflection-type notch filters,

wherein an intensity P1 of fluorescence reflected from a first narrow-band reflection-type notch filter is detected by a first light-receiving portion, and

wherein fluorescence transmitted through an (n-1)-th narrow-band reflection-type notch filter is allowed to enter an n-th narrow-band reflection-type notch filter, and an intensity Pn of fluorescence reflected from the n-th narrow-band reflection-type notch filter is detected by an n-th light-receiving portion.

6. (Withdrawn) The fluorometer according to claim 5, wherein the narrow-band reflection-type notch filter comprises a pair of glass substrates and a photopolymer arranged between the pair of glass substrates, and a periodic change in refractive index of the photopolymer occurs in its thickness direction.

7. (Withdrawn) The fluorometer according to claim 5, wherein a relative ratio or a difference between the intensities P1, P2, ..., Pn of the fluorescence detected respectively by the n light-receiving portions is determined.

Claims 8-11. (Cancelled)

12. (Previously Presented) The fluorometer according to claim 3, wherein the light source is a light-emitting diode.

13. (Previously Presented) The fluorometer according to claim 3, wherein the light source is a wavelength-variable semiconductor laser.

14. (Previously Presented) The fluorometer according to claim 3, wherein a rare-earth element is added to the substance.

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15. (Previously Presented) The fluorometer according to claim 3, wherein a wavelength width of a spectrum of the fluorescence generated from the substance is detected by comparing the detected intensities P1, P2, ..., Pn of the fluorescence.
16. (Withdrawn) The fluorometer according to claim 5, wherein the light source is a light-emitting diode.
17. (Withdrawn) The fluorometer according to claim 5, wherein the light source is a wavelength-variable semiconductor laser.
18. (Withdrawn) The fluorometer according to claim 5, wherein a rare-earth element is added to the substance.
19. (Withdrawn) The fluorometer according to claim 5, wherein a wavelength width of a spectrum of the fluorescence generated from the substance is detected by comparing the detected intensities P1, P2, ..., Pn of the fluorescence.
20. (New) The fluorometer according to claim 3, wherein differences between the wavelength width of the spectrum of the fluorescence are distinguished with one or more substances with different fluorescence spectra.